

# The genus *Coptoglossus* Chaudoir in eastern Australia (Insecta: Coleoptera: Carabidae: Lebiinae)

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## ABSTRACT

The Australian lebiine genus *Coptoglossus* Chaudoir is revised. Both recorded species, *Coptoglossus sulcatulus* Chaudoir and *C. carteri* (Sloane), are redescribed and the male and female genitalia examined and figured. *Colpodes porphyriacus* (Sloane) is transferred from Platynini to the lebiine genus *Coptoglossus*, and a new species *Coptoglossus excisicollis* sp. nov. is described. A key for the four species of the genus is provided. □ *Coleoptera, Carabidae, Lebiini, Coptoglossus, new combination, new species, Australia, key to species.*

The lebiine genus *Coptoglossus* Chaudoir, 1869, presently includes two species, namely *C. sulcatulus* Chaudoir, 1869, described from Melbourne, Victoria and so far recorded only from Victoria (Moore *et al.* 1987), and *C. carteri* (Sloane, 1915), described and recorded from Dorrigo in northern New South Wales (Moore *et al.* 1987). Due to the rarity of specimens in collections the genus is not well known and little documented, and even its systematic position in either Lebiini or Platynini was at issue (see Darlington 1956, 1963; Moore *et al.* 1987; Lorenz 1998, 2005; Wikispecies 2009).

For some time I had accumulated, for future work, specimens that apparently belong to this genus, but a recent inquiry about two species by Geoff Monteith of the Queensland Museum, Brisbane, caused me to finally identify the accumulated material and to prepare a key to the species. During this work it turned out that *Colpodes porphyriacus* (Sloane, 1910) belongs to the lebiine genus *Coptoglossus* rather than to the platynine genus *Colpodes* Macleay, 1825, and also that the ranges of the described species are much larger than previously recorded. Moreover, this work gives the opportunity to

describe an additional species from specimens which have been available for some years but remained unidentified. Hence, the genus now includes four quite differently shaped species which range from eastern Victoria along the wet east coast of Australia to southern Queensland, inland at least to the Bunya Mountains.

## METHODS

Measurements were taken using a stereo microscope with an ocular micrometer. Length has been measured from apex of labrum to apex of elytra. Body lengths, therefore, may differ slightly from those specified by other authors. Length of the pronotum was measured from the most advanced part of the apex to the most advanced part of the base. Width of the base of pronotum was measured at the position of the posterior lateral seta. Length of elytra was measured from the most advanced part of the humerus to the very apex.

For dissection of the male genitalia, specimens were relaxed for a night in a jar under moist atmosphere, then the genitalia were removed and cleaned for a short while in hot KOH. The

habitus photographs were taken with a digital camera using ProgRes CapturePro 2.6 and AutoMontage and were then edited with Corel Photo Paint 11.

#### ABBREVIATIONS

AMS . . . . . Australian Museum, Sydney  
 ANIC . . . . . Australian National Insect  
 Collection, Canberra  
 BMNH. . . . . The Natural History Museum,  
 London  
 CBM. . . . . Working collection M. Baehr in  
 Zoologische Staatssammlung, München  
 QM. . . . . Queensland Museum, Brisbane  
 UQIC. . . . . University of Queensland Insect  
 Collection, Brisbane (now in QM)

#### Genus *Coptoglossus* Chaudoir, 1869

*Coptoglossus* Chaudoir, 1869: 124; Darlington 1963: 1; Moore *et al.* 1987: 283; Lorenz 1998: 395.

**Type species.** *Coptoglossus sulcatulus* Chaudoir, 1869, by monotypy.

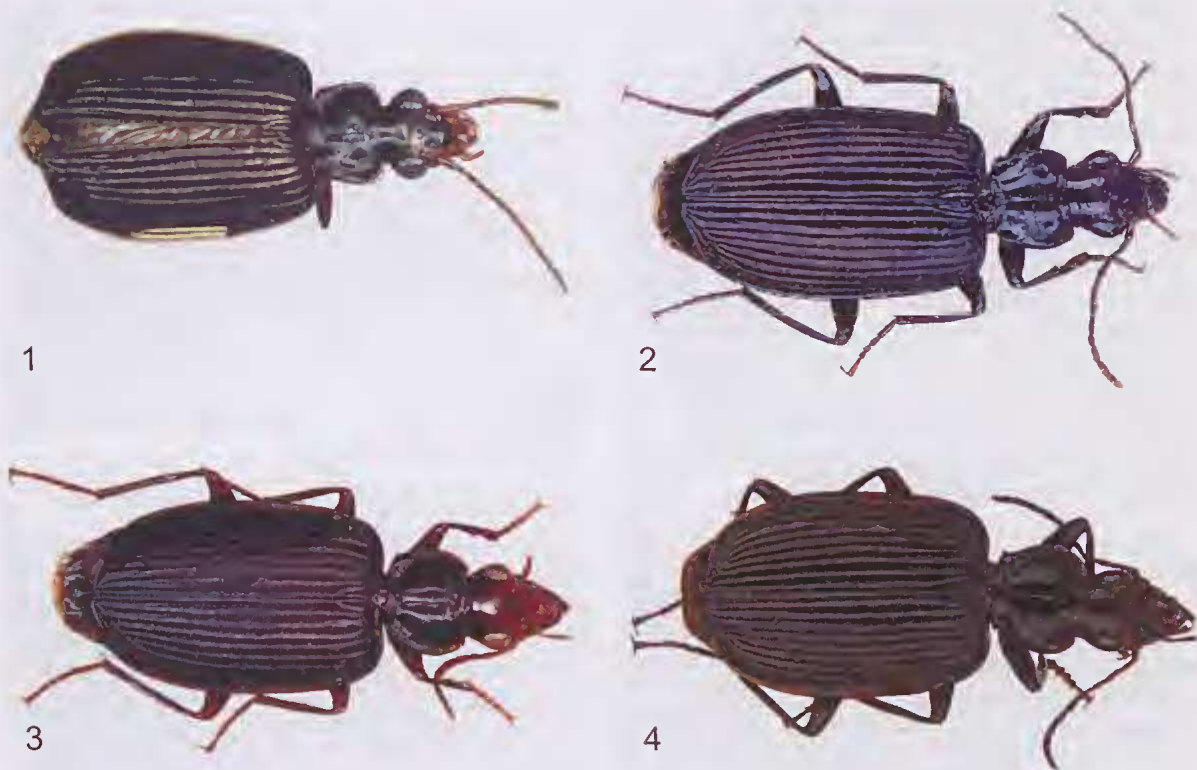
**Diagnosis.** A genus of the tribe (or subfamily) Lebiini (-inae), characterised by uniformly black or slightly violaceous colour, completely and deeply striate elytra, barely excised apex of the elytra, and tarsal claws not denticulate. The following characters which are common to all species, are not further mentioned in the descriptions: labrum elongate and quadrangular; palpi narrow and elongate, at apex slightly transverse, sparsely but completely pilose; antenna moderately elongate, pilose from mid of antennomere IV; mental tooth triangular, mentum bisetose, submentum bisetose and with two additional setae situated more posteriad; glossa narrow and elongate, bisetose; paraglossae hyaline, far surpassing glossa; lacinia narrow and elongate, with rather few spines on internal margin; elytra completely and deeply striate, intervals convex, striae very finely punctulate; apex of elytra oblique, barely sinuate; 3<sup>rd</sup> interval with three setiferous punctures; 13-14 setiferous

marginal punctures and 2 apical punctures close to suture present; elytra with distinct, very transverse microreticulation; upper surface of pronotum and elytra with extremely short, slightly declined pilosity which in most species is only visible in lateral view under very high magnification; metathoracic wings fully developed; lower surface with fairly distinct, more or less erect pilosity; terminal abdominal sternum quadrisetose in both sexes; legs of moderate size; 5<sup>th</sup> tarsomeres with several fairly elongate setae on lower surface; tarsal claws large, not denticulate; 1<sup>st</sup> - 3<sup>rd</sup> tarsomeres of male protarsus uniseriately or asymmetrically biseriately squamose with elongate hairs; aedeagus rather compact, suddenly narrowed to basal part which is somewhat curved left, with very large orifice situated almost completely on the left side; internal sac lacking any sclerotised pieces; female gonocoxite 1 large, without any setae at apical rim, gonocoxite 2 variously shaped, with two large ventro-lateral and one slender dorso-median ensiform setae, invariably without subapical nematiform seta.

Because of the barely excised apex of the elytra and the slightly projecting eyes of most species, some species were originally described as platynines, and one species was still regarded as a platynine until this paper (*Coptoglossus porphyriacus*, see Moore *et al.* 1987). The shortened elytra, elongate labrum and shape and structure of the female gonocoxite 2, however, demonstrate that the genus belongs to Lebiini rather than Platynini. The glabrous tarsal claws and the weakly sinuate apex of the elytra, however, suggest a rather basal systematic position within Lebiini. Based on holdings of the large Australian collections, specimens are rarely collected. This may partly explain our poor knowledge of the genus and the uncertainty about its systematic position.

**Distribution.** Eastern Australia from eastern Victoria to south-eastern Queensland.

*Coptoglossus* Chaudoir



FIGS 1-4. *Coptoglossus* species, habitus (body lengths in brackets). 1, *C. sulcatulus* Chaudoir (6.5 mm); 2, *C. porphyriacus* (Sloane) (10.6 mm); 3, *C. carteri* (Sloane) (9.3 mm); 4, *C. excisicollis* sp. nov. (12.8 mm).

*Coptoglossus sulcatulus* Chaudoir, 1869  
(Figs 1, 5, 10, 14)

*Coptoglossus sulcatulus* Chaudoir, 1869: 125; Moore *et al.* 1987: 283; Lorenz 1998: 395.

**Material.** HOLOTYPE: sex not identified, Melbourne (MHNP). New records: New South Wales, 1♂, Stanwell Park, 1 km W rail sta., xi.2001, C. Reid (AMS); 1♀, Minnamurra Falls, 10 ml W. Kiama 27.xii.1974 H. & A. Howden (CBM); 1♀, Woy Woy 9.08. C. D. (UQIC). Queensland: 1♀, Bunya Mts. (26.50S 151.33E) 3 km from summit on Kingaroy Rd. 6.i.70 Britton, Holloway, Misko (ANIC); 1♀, 27.404°S × 152.801°E Scrub Road, Mt. Nebo SF, 23 Sept 2008 G.B. Monteith (QM); 1♀, 28°04'S, 152°24'E Mt. Mitchell, 1060 m 2 Dec 1991-6 Jan 1992 D.J. Cook

(QM); 1♀, 28°11'S × 153°11'E Lower Coomera 3 Dec 94-9 Jan 1995 G.B. Monteith & H. Janetzki, 350 m (CBM); 1♂, South Emu Creek, Via Emu Vale, S. E. Qld. 22.v.1969 B. Cantrell (UQIC).

**Type locality.** 'Melbourne', Victoria.

**Diagnosis.** Easily distinguished from the other species by much smaller size, wide pronotum, and large, laterally well produced eyes.

**Partial redescription.** *Measurements.* Length: 6.4-6.6 mm; width: 2.7-2.85 mm. Ratios. Width/length of pronotum: 1.46-1.48; width widest diameter/base of pronotum: 1.14-1.17; width of pronotum/width of head: 1.13-1.16; length/width of elytra: 1.43-1.47.

*Colour.* (Fig. 1) Very dark piceous to black, labrum, mandibles, palpi, and antennae reddish. Legs pale brown, knees slightly lighter. Lower surface reddish in middle, darker laterally, more or less brown.

*Head.* (Fig. 5) Large and wide (in group), eyes very large, laterally well produced, orbits very small, oblique. Clypeus comparatively short and wide, apical margin of labrum very slightly sinuate. Mandibles moderately elongate, base not markedly depressed. Antennomeres VI and VII c. 1.75 × as long as wide. Posterior supraorbital seta situated well in front of posterior margin of eye. Surface of head with distinct, isodiametric microreticulation, no punctures and no pilosity visible, surface fairly dull.

*Pronotum.* (Fig. 5) Comparatively wide, though little wider than head, widest at apical fourth or third. Apex gently excised, anterior angles produced but very widely rounded; lateral margin in anterior half convex, posteriad very slightly sinuate. Base in middle straight, laterally oblique-convex, basal angles very obtuse, almost rounded off. Apex not perceptibly margined, base margined. Lateral margin anteriorly rather narrow, widened towards base, margin upturned, marginal channel deep throughout, posteriad deepened. Disc rather depressed, median line and anterior transverse sulcus distinct, the posterior transverse sulcus remarkably deep. Anterior lateral seta inserted at apical fourth, at or slightly in front of widest diameter, seta slightly displaced from margin. Posterior lateral seta inserted at basal angle. Surface with several fine, shallow, slightly irregular, transverse striae, with distinct, slightly transverse microreticulation, and fairly distinct, almost erect pilosity, surface rather dull.

*Elytra.* (Fig. 1) Comparatively short and wide, slightly widened towards apical third, but not oviform, dorsal surface moderately convex. Humerus very widely rounded, lateral margin slightly but evenly convex, apex oblique, very slightly sinuate, incurved towards suture. Lateral

channel moderately wide, lateral margin slightly upturned. Striae deep, at bottom finely crenulate, intervals convex. Anterior discal puncture located at 3<sup>rd</sup> stria, both median and posterior punctures in middle of 3<sup>rd</sup> interval. 13-14 marginal punctures present, series rather interrupted in middle. Setae of different length but some very elongate. Microreticulation on intervals dense and distinct, punctures extremely fine and barely recognisable, pilosity very short but fairly distinct, declined, surface rather dull.

*Lower surface.* Metepisternum moderately elongate, 1.5-1.6 × as long as wide at apex. Microreticulation fine and slightly superficial, moderately transverse.

*Legs.* Male protarsus biserially squamose.

*Male genitalia.* (Fig. 10) Genital ring moderately wide, almost symmetric, laterally evenly convex, with very convex base and narrow, short, obtusely triangular apex. Aedeagus comparatively small, moderately voluminous, basal part narrow, at tip markedly curved down, lower surface very slightly concave, upper surface convex, with short, fairly stout, triangular-convex apex. Internal sac complexly folded, without any sclerotised pieces, but with some extremely finely denticulate folds. Left paramere large, triangular, with rather narrow, convex apex. Right paramere rather short and wide, basal part curved down.

*Female gonocoxites.* (Fig. 14) Gonocoxite 1 very large, gonocoxite 2 small, short, markedly curved, with moderately stout ventro-lateral ensiform setae.

**Variation.** Few differences noted, even between specimens from southern New South Wales and south-eastern Queensland.

**Distribution.** South-eastern Victoria through eastern New South Wales to south-eastern Queensland, inland to the Bunya Mountains.

**Collecting circumstances.** One specimen collected in 'Nothofagus forest', others in 'Rainforest, under log', 'RF, bark spray', 'Intercept', 'Intercept Trap'.



FIGS 5-9. *Coptoglossus* species, head and pronotum; 5, *C. sulcatulus* Chaudoir; 6, *C. porphyriacus* (Sloane), male; 7, *C. porphyriacus* (Sloane), female; 8, *C. carteri* (Sloane); 9, *C. excisicollis* sp. nov.

**Relationships.** On the basis of the relatively large eyes, the moderately elongate mandibles, and the biserially squamose male protarsus, it is most similar to *C. porphyriacus* (Sloane); however, as the mentioned characters are plesiomorphic, the similarity could be due only to the presence of primitive features which do not demonstrate close relationship. As both species rather differ in other character states, e.g. colouration, shape of pronotum and elytra, they may not actually be closely related.

*Coptoglossus porphyriacus* (Sloane, 1910)  
comb. nov.  
(Figs 2, 6, 7, 11, 15)

*Platynus porphyriacus* Sloane, 1910: 455; Sloane 1915: 461.  
*Colpodes porphyriacus* (Sloane); Darlington 1956: 4; Moore *et al.* 1987: 219; Lorenz 1998: 394.

**Material.** Holotype: almost completely missing from card (ANIC). New records: Victoria: 1♀, Buln Buln, 16 Nov 1958 C.G.L. Gooding (ANIC); 1♀, Wilson's Prom N.P. Lilly Pilly Tr. 15 May 1978 S. & J. Peck (ANIC); 1♂, Club Terr. E.Vic. 30.i.1967. G.B. Monteith (UQIC). New South Wales: 1♀, Dorrigo. W. Heron. B.M.1934-232 (BMNH); 1♂, Lilyvale 17:2:1973 D.A. Doolan / *Coptoglossus* sp. Det. B.P. Moore 1998 (AMS); 1♂, Barrington Tops Via Salisbury, 28-30.xii.1965. B. Cantrell (UQIC). Queensland: 1♂, Mt. Glorious, Tenison Woods, 27.17.30S, 152.45.02E, 757 m, 16.8.2007, leg. M. Baehr (CBM).

**Type locality.** 'Illawarra', New South Wales.

**Note.** The specimens very closely match the description of Sloane (1910), I have no doubt that they belong to this species.

**Diagnosis.** Easily distinguished from all other species by the elongate elytra and their violaceous colour, and by the elongate, spoon-shaped apices of aedeagus and genital ring.

**Partial redescription.** *Measurements.* Length: 9.1-10.6 mm; width: 3.5-3.95 mm. Ratios. Width/length of pronotum: 1.24-1.25; width widest diameter/base of pronotum: 1.14-1.18; width of pronotum/width of head: 1.11-1.14; length/width of elytra: 1.58-1.61.

**Colour.** (Fig. 2) Dark brown to almost black, elytra with distinct violaceous lustre; labrum,

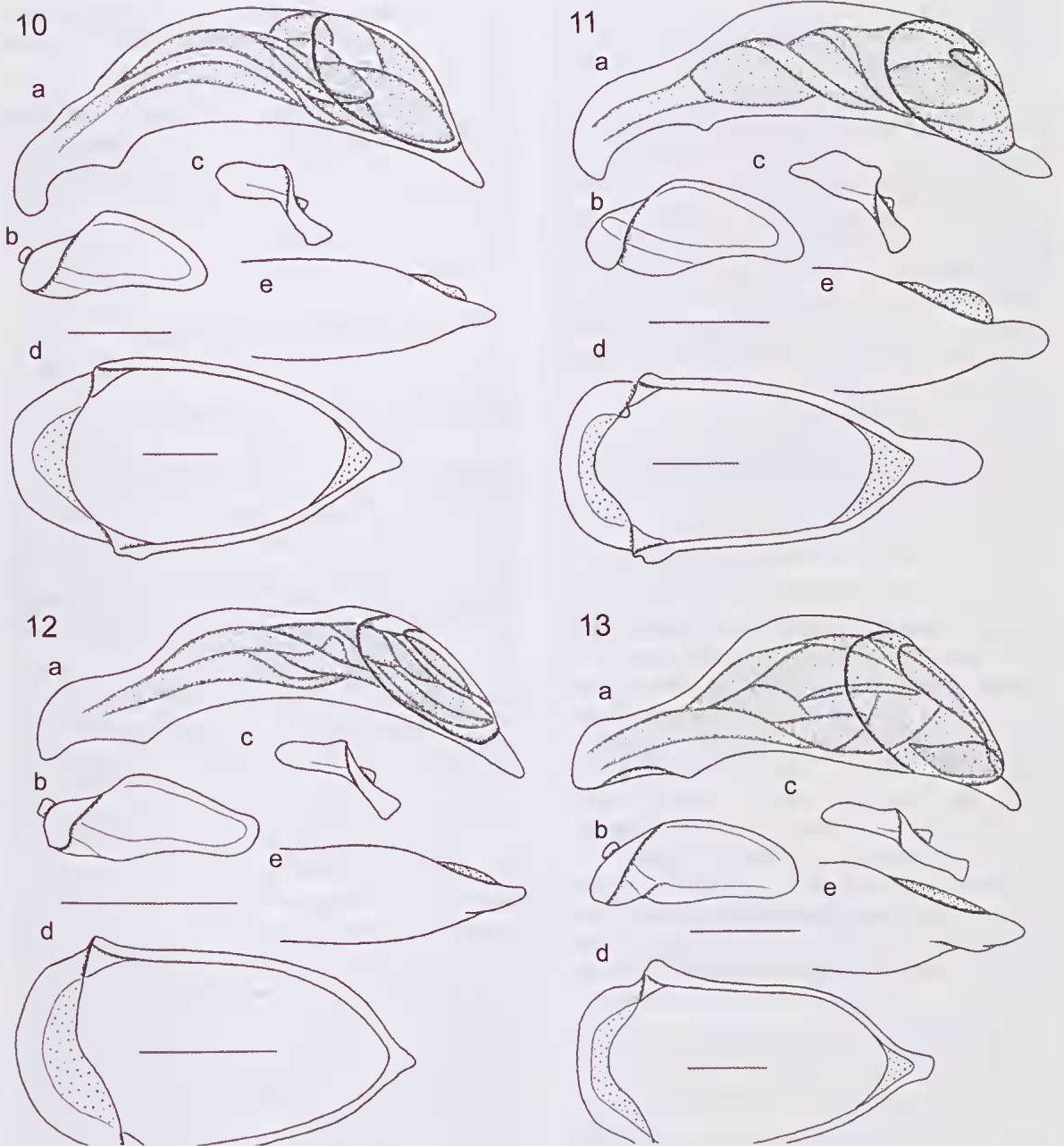
mandibles, palpi, and antennae reddish. Legs dark brown to almost black, knees slightly lighter. Lower surface reddish in middle, darker laterally, more or less dark brown.

**Head.** (Figs 6, 7) Rather large and wide (in group), eyes in males large, laterally well protruded, orbits small, oblique; eyes in females considerably smaller and far less produced laterally, orbits longer and less oblique. Clypeus comparatively short and wide, apical margin of labrum very slightly sinuate. Mandibles moderately elongate, base not markedly depressed. Antennomeres VI and VII c. 1.75 × as long as wide. Posterior supraorbital seta situated at posterior margin of eye. Surface of head with very fine and superficial, isodiametric microreticulation, very fine punctures but no pilosity visible, surface rather glossy.

**Pronotum.** (Figs 6, 7) Comparatively narrow, little wider than head, widest at apical third. Apex gently excised, anterior angles produced but widely rounded; lateral margin in anterior half slightly convex, posteriad oblique and straight or very slightly sinuate. Base straight in middle, laterally slightly oblique-convex, basal angles obtuse. Apex not margined, base laterally margined, in middle not or barely margined. Lateral margin anteriorly rather narrow, much widened towards base, margin upturned, marginal channel deep throughout, posteriad deepened. Disc rather depressed, median line and anterior transverse sulcus distinct, the posterior transverse sulcus remarkably deep. Anterior lateral seta inserted at apical third, at or slightly in front of widest diameter, seta slightly displaced from margin. Posterior lateral seta inserted at basal angle. Surface with several fine, shallow, slightly irregular, transverse striae, with very fine and superficial, slightly transverse microreticulation, and extremely short, barely perceptible, almost erect pilosity, surface fairly glossy.

**Elytra.** (Fig. 2) Comparatively elongate and narrow, very slightly widened towards apical

*Coptoglossus* Chaudoir



FIGS 10-13. *Coptoglossus* species, male aedeagus and parameres (scale bars in brackets). 10, *C. sulcatulus* Chaudoir (0.25 mm); 11, *C. porphyriacus* (Sloane) (0.5 mm); 12, *C. carteri* (Sloane) (0.25 mm); 13, *C. excisicollis* sp. nov. (0.5 mm). a, aedeagus left lateral view; b, right paramere; c, left paramere; d, genital ring; e, apex of genital ring, lateral view.

third, dorsal surface rather convex. Humerus very widely rounded, lateral margin very slightly convex, apex oblique, barely sinuate, incurved towards suture. Lateral channel moderately wide, lateral margin slightly upturned. Striae deep, at bottom finely crenulate, intervals convex. Anterior discal puncture located at 3<sup>rd</sup> stria, both median and posterior punctures in middle of 3<sup>rd</sup> interval. 13-14 marginal punctures present, series rather interrupted in middle. Setae of different lengths but some very elongate. Microreticulation on intervals dense and distinct, punctures extremely fine and barely visible, pilosity very short and only visible in lateral view, declined, surface moderately glossy.

*Lower surface.* Metepisternum elongate, c. 2 × as long as wide at apex. Microreticulation extremely fine and very superficial, moderately transverse.

*Legs.* Male protarsus biserially squamose.

*Male genitalia.* (Fig. 11) Genital ring narrow and elongate, rather symmetric, almost parallel-sided, with moderately convex base and elongate, comparatively wide, spoon-shaped apex. Aedeagus large, voluminous, basal part narrow, markedly curved down at tip. Lower surface in middle almost straight, upper surface convex, with large and fairly elongate, slightly spoon-shaped apex. Internal sac complexly folded, without any sclerotised pieces, but with some extremely finely denticulate folds. Left paramere large, rather triangular, with rather narrow, obliquely convex apex. Right paramere wide but small, with narrow, almost acute apex, basal part curved down.

*Female gonocoxites.* (Fig. 15) Gonocoxite 1 large, gonocoxite 2 small, short, moderately curved, with stout ventro-lateral ensiform setae.

*Variation.* Little variation noted in most external characters. However, some sexual dimorphism seems to exist, as the available males possess much larger and more laterally produced eyes than the females.

**Distribution.** Distributed from eastern Victoria through eastern New South Wales to south-eastern Queensland.

**Collecting circumstances.** Largely unknown, though the specimen from Mt. Glorious was fogged from the bark of the base of a rainforest tree. The localities of the other specimens are probably also in rainforest.

**Relationships.** See *C. sulcatulus* Chaudoir.

*Coptoglossus carteri* (Sloane, 1915)  
(Figs 3, 8, 12, 16)

*Platynus carteri* Sloane, 1915: 460.

*Coptoglossus carteri* (Sloane); Darlington 1963: 1; Moore *et al.* 1987: 283; Lorenz 1998: 395.

**Material.** Syntype: According to Moore *et al.* (1987) the single specimen that I examined some years ago in the Sloane Collection (ANIC), is a syntype. New records: New South Wales: 1♀, Stanwell Park, 1 km W rail sta., xi.2001, C. Reid (AMS); 1♂, Dorrigo. W. Heron / *Coptoglossus* sp. nov. (AMS); 1♀, Ulong, East Dorrigo W. Heron / *Coptoglossus* det. B.P. Moore 1999 (AMS); 1♀, Lilyvale 11-11-1973 / *Coptoglossus carteri* (Sl.) det. B.P. Moore 1999 (AMS); 1♀, Minnamurra Falls, 10 ml W. Kiama 27.xii.1974 H. & A. Howden (ANIC). Queensland: 2♂♂, 27°22'S, 152°11'E Ravensbourne NP, 740 m 1 Dec 1991-7 Jan 1992 D.J. Cook (CBM, QM); 1♀, 26°43'S, 152°34'E Sunday Ck. Conondale Ra, 900 m 29 Nov 1991-7 Jan 1992 D.J. Cook (QM); 1♀, 26°53'S, 151°36'E Bunya Mts, 1040 m 7 Jan 1992-1 Mar 1992 D.J. Cook (QM); 1♂, 28°06'S, 152°24'E Spicer's Peak summit, 30-31 Dec 1993. 1200 m G.B. Monteith (QM).

**Type locality.** Dorrigo, New South Wales.

**Diagnosis.** Distinguished from *C. sulcatulus* Chaudoir and *C. porphyriacus* (Sloane) by the elongate mandibles and the uniseriate squamosity of the male protarsus; from *C. excisicollis* sp. nov. distinguished by smaller size, much wider pronotum with narrower base and lateral margin not excised, and much less stout and voluminous aedeagus.

**Partial redescription.** *Measurements.* Length: 8.9-10.6 mm; width: 3.8-4.25 mm. Ratios. Width/length of pronotum: 1.28-1.30; width widest diameter/base of pronotum: 1.13-1.20; width



of pronotum/width of head: 1.23-1.28; length/width of elytra: 1.47-1.51.

*Colour.* (Fig. 3) Dark piceous to black, but head in some specimens more or less reddish; pronotum and elytra with indistinct, very narrow, reddish margin; labrum, mandibles, palpi, and antennae reddish. Legs dark brown to almost black, but tarsi more or less dark reddish. Lower surface reddish in middle, darker laterally, more or less dark brown.

*Head.* (Fig. 8) Rather elongate (in group), eyes moderately large, moderately produced laterally, orbits fairly elongate, oblique. Clypeus comparatively elongate and triangular, apical margin of labrum very slightly sinuate. Mandibles elongate, almost correct, base somewhat depressed. Antennomeres VI and VII c.  $1.5 \times$  as long as wide. Posterior supraorbital seta situated at posterior margin of eye. Surface of head with only traces of extremely fine and superficial, isodiametric microreticulation; very fine punctures but no pilosity visible, surface glossy.

*Pronotum.* (Fig. 8) Moderately wide, considerably wider than head, widest at apical third. Apex gently excised, anterior angles produced but widely rounded; lateral margin in anterior half slightly convex, posteriad oblique and straight or very slightly sinuate. Base in middle straight, laterally slightly oblique-convex, basal angles obtuse. Apex not margined, base laterally margined, in middle not or barely margined. Lateral margin rather narrow anteriorly, much widened towards base, margin upturned, marginal channel deep throughout, posteriad deepened. Disc rather depressed, median line and anterior transverse sulcus distinct, the posterior transverse sulcus very deep. Anterior lateral seta inserted at apical third, at or slightly in front of widest diameter, seta slightly removed from margin. Posterior lateral seta inserted at basal angle. Surface with several fine, shallow, slightly irregular, transverse striae, with very fine and superficial, slightly

transverse microreticulation which is barely visible, and extremely short, barely perceptible, almost erect pilosity, surface fairly glossy.

*Elytra.* (Fig. 3) Rather short and wide, very slightly widened towards apical third, dorsal surface rather depressed. Humerus very widely rounded, lateral margin very slightly convex, apex oblique, barely sinuate, incurved towards suture. Lateral channel moderately wide, lateral margin slightly upturned. Striae deep, at bottom not or barely crenulate, intervals convex. Anterior discal puncture located at 3<sup>rd</sup> stria, both median and posterior punctures in middle of 3<sup>rd</sup> interval. 13-14 marginal punctures present, series rather interrupted in middle. Setae of different lengths but some very elongate. Microreticulation on intervals very fine and dense, markedly transverse, punctures extremely fine and barely visible, pilosity very short and only visible in lateral view, declined, surface moderately dull.

*Lower surface.* Metepisternum rather elongate, c.  $1.8 \times$  as long as wide at apex. Microreticulation extremely fine but distinct, moderately transverse, lower surface dull.

*Legs.* Male protarsus uniseriately squamose.

*Male genitalia.* (Fig. 12) Genital ring wide, slightly asymmetric, with convex base and short, triangular apex. Aedeagus moderately large, comparatively slender, basal part fairly stout, not much curved down at tip. Lower surface gently concave throughout, upper surface moderately convex but in middle slightly impressed, with short, fairly stout, triangular apex. Internal sac complexly folded, without any sclerotised pieces, but with some extremely finely denticulate folds. Left paramere large, triangular, with rather narrow, obliquely convex apex. Right paramere rather narrow and elongate, basal part not much curved down.

*Female gonocoxites.* (Fig. 16) Gonocoxite 1 large, gonocoxite 2 small, short, moderately curved, with very stout ventro-lateral ensiform setae.

**Variation.** Some variation noted in body size and relative width of pronotum as compared with head and elytra.

**Distribution.** Distributed from eastern New South Wales south of Sydney to south-eastern Queensland.

**Collecting circumstances.** Labelled specimens were sampled in 'RF, Intercept' which means that they were collected in a flight intercept trap in rainforest.

**Relationships.** Most similar to *C. excisicollis* sp. nov. in the eyes being little produced laterally, the mandibles being elongate, almost porrect, and the uniseriately squamose male protarsus. Because the mentioned characters are apomorphic, their similarity most probably indicates close relationship between these species. In *C. carteri*, however, the characters states mentioned are plesiomorphic in comparison with those of *C. excisicollis*.

*Coptoglossus excisicollis* sp. nov.  
(Figs 4, 9, 13, 17)

**Material.** Holotype: ♂, Tooloom Plateau, via Woodenbong, New South Wales, 30-31.xii.1966. G.B. Monteith (QM T156362). Paratypes: Queensland: 1♀, QLD: 28.188°S × 153.121°E Lamington NP, IBISCA 700A 9 Nov-2 Dec 2008. Malaise RF, G.B. Monteith (QM); 1♀, Queensland. Tallebudgera Valley 12.xi. 2000 D.J. Cook ex log in RF (QM); 1♂, Mt Tamborine NP, Palm Grove, 23.8.2007, leg. M. Baehr (CBM). New South Wales: 1♀, Bundgean 25 km NE Kyogle 22.XI.1986 New South Wales D.J. Scambler / K255273 / *Coptoglossus* Det. B.P. Moore 1999 (AMS).

**Etymology.** The name refers to both the short but deep prebasal excision and the deep excision of the apex of the pronotum.

**Diagnosis.** Distinguished from all other species by the large size and the strongly excised lateral margins of the pronotum.

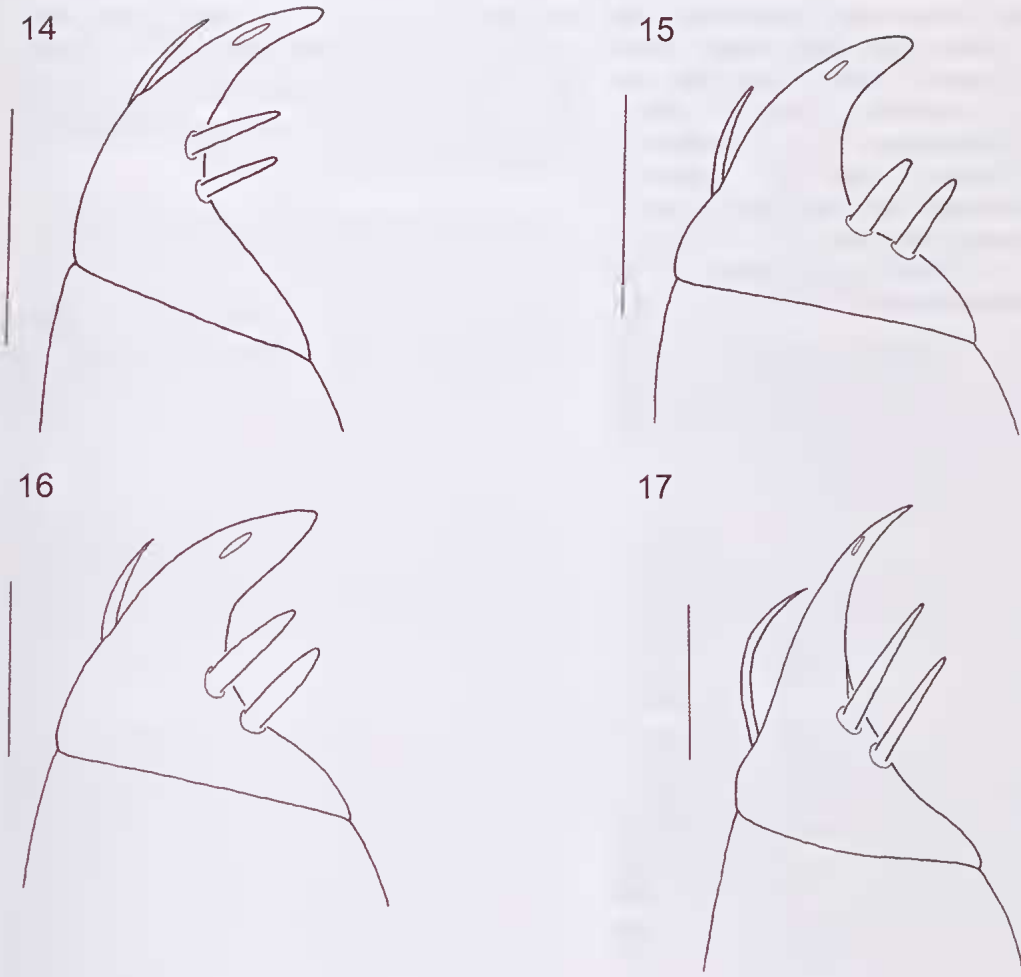
**Description.** *Measurements.* Length: 12.4-13.9 mm; width: 5.25-5.7 mm. Ratios. Width/length of pronotum: 1.14-1.18; width widest

diameter/base of pronotum: 1.28-1.35; width of pronotum/width of head: 1.25-1.30; length/width of elytra: 1.42-1.43.

**Colour.** (Fig. 4) Dark piceous to black, head in most specimens more or less reddish; pronotum and elytra with indistinct, very narrow, reddish margin; labrum, mandibles, palpi, and antennae reddish. Legs dark brown to almost black, but knees and tarsi slightly lighter. Lower surface reddish in middle, darker laterally, more or less dark brown.

**Head.** (Fig. 9) Rather elongate (in group), eyes comparatively small, little protruded laterally, orbits elongate, oblique-convex. Clypeus comparatively elongate and triangular, apical margin of labrum very slightly sinuate. Mandibles very elongate, porrect, base distinctly depressed. Antennomeres VI and VII c. 1.5 × as long as wide. Frontal furrows short but distinct, in anterior-medial part of frons also with a slightly triangular impression. Posterior supraorbital seta situated slightly behind posterior margin of eye. Surface of head with traces of extremely fine and superficial, isodiametric microreticulation; very fine punctures but no pilosity visible, surface glossy.

**Pronotum.** (Fig. 9) Moderately wide, distinctly wider than head, widest at or slightly in front of middle. Apex deeply excised, anterior angles far produced and only slightly obtuse at tip; lateral margin markedly convex throughout, deeply excised just in front of basal angles. Base in middle straight, laterally very slightly oblique, basal angles rectangular, acute at tip, well produced laterally. Apex not margined, base rather coarsely margined. Lateral margin anteriorly fairly wide, moderately widened towards base, margin upturned, marginal channel deep throughout, posteriad evenly deepened. Disc slightly convex, median line rather deep and almost complete, anterior transverse sulcus shallow, posterior transverse sulcus moderately deep. Anterior lateral seta inserted behind apical third, slightly in front of widest



FIGs 14-17. *Coptoglossus* species, female gonocoxite 2 (scale bars: 0.1 mm). 14, *C. sulcatulus* Chaudoir; 15, *C. porphyriacus* (Sloane); 16, *C. carteri* (Sloane); 17, *C. excisicollis* sp. nov.

diameter, seta slightly displaced from margin. Posterior lateral seta inserted at basal angle. Surface with many very fine, shallow, slightly irregular, transverse strioles, with traces only of extremely fine and superficial, slightly transverse microreticulation which is barely visible, and with very fine punctures and extremely short, almost erect pilosity, barely perceptible even under high magnification, surface fairly glossy.

*Elytra.* (Fig. 4) Comparatively short and wide, distinctly widened towards apical third, slightly oviform, dorsal surface rather convex. Humerus very widely rounded, lateral margin slightly convex, apex oblique, barely sinuate, incurved towards suture. Lateral channel moderately wide, lateral margin slightly upturned. Striae deep, at bottom finely crenulate, intervals convex. Anterior discal puncture located at 3<sup>rd</sup>

stria, both median and posterior punctures in middle of 3<sup>rd</sup> interval. 13-14 marginal punctures present, series rather interrupted in middle. Setae of different length but some very elongate. Microreticulation on intervals very fine and dense, markedly transverse, punctures extremely fine and barely visible, pilosity extremely short and only visible in lateral view under very high magnification, declined, surface moderately dull.

*Lower surface.* Metepisternum rather short, c. 1.5 × as long as wide at apex. Microreticulation extremely fine, on thorax rather superficial, on abdomen distinct, moderately transverse, thorax rather glossy, abdomen duller.

*Legs.* Male protarsus uniseriately squamose.

*Male genitalia.* (Fig. 13) Genital ring moderately wide, slightly asymmetric, with convex base and narrow, obtuse, rather short apex. Aedeagus large, very voluminous, basal part fairly stout, at tip not much curved down. Lower surface in middle gently convex, upper surface very convex, with short, stout, slightly lancet-shaped apex. Internal sac complexly folded, without any sclerotised pieces, but with some extremely finely denticulate folds. Left paramere large, not triangular, with wide, convex apex. Right paramere rather narrow and elongate, basal part not much curved down.

*Female gonocoxites.* (Fig. 17) Gonocoxite 1 very large, gonocoxite 2 narrow and elongate, gently curved, with very acute apex, with a narrow, remarkably elongate and markedly curved dorso-median ensiform seta and two narrow and elongate ventro-lateral ensiform setae.

*Variation.* Little variation noted.

*Distribution.* Extreme north-eastern New South Wales and adjacent south-eastern Queensland in Lamington and Tamborine National Parks.

*Collecting circumstances.* One specimen collected in 'Malaise RF' (= rainforest), two other

specimens from logs in rainforest, other specimens most probably also sampled in rainforest.

**Relationships.** Related to *C. carteri* (Sloane), but in certain characters revealing the apomorphic state as compared with *C. carteri*.

#### KEY TO SPECIES OF THE GENUS *COPTOGLOSSUS* CHAUDOIR

1. Small species, body length <7 mm; pronotum wide, ratio width/length >1.45; eyes large and strongly projecting laterally (Fig. 5); aedeagus large and stout, with triangular, symmetric apex (Fig. 10). *..sulcatulus* Chaudoir
  - Larger species, body length >8.5 mm; pronotum narrower, ratio width/length <1.3 (Figs 6-9); eyes varied but when large and strongly projecting laterally, elytra with distinct violaceous tinge (Fig. 3); aedeagus either narrower, or with differently shaped, not triangular or asymmetric apex (Figs 11-13) ..... 2
  - Smaller species, body length <10.6 mm; pronotum wider, lateral margin barely excised in front of basal angles, apex less deeply excised and apical angles protruding far less (Figs 6-8); either elytra short and wide but not oval-shaped and more depressed (Fig. 3), or elytra dorsally convex but much longer and narrower and rather parallel-sided (Fig. 2); aedeagus less stout and high, with asymmetrically triangular or spoon-shaped apex (Figs 11, 12); gonocoxite 2 short and stout (Figs 15, 16) ..... 3
2. Very large species, body length >12 mm; pronotum narrow, with short but deep excision in front of basal angles; apex also deeply excised and apical angles markedly protruding (Fig. 9); elytra short, wide and oval-shaped with dorsal surface convex (Fig. 4); aedeagus very stout and high, with somewhat lancet-shaped apex (Fig. 13); gonocoxite 2 very narrow and elongate (Fig. 17) ..... *excisicollis* sp. nov.
3. Elytra black, short, wide and rather depress-

ed, ratio length/width <1.5 (Fig. 3); eyes in both sexes only moderately protruding laterally (Fig. 8); male protarsus uniseriately squamose; aedeagus less stout, with asymmetrically triangular apex (Fig. 12) .....*carteri* (Sloane)

- Elytra distinctly violaceous, narrow and elongate, dorsally convex, ratio length/width >1.6 (Fig. 2); eyes in males markedly protruding laterally (Fig. 6); male protarsus biseriately squamose; aedeagus stouter, with wide, spoon-shaped apex (Fig. 11) .....*porphyriacus* (Sloane)

#### REMARKS

Specimens of *Coptoglossus* are rare in collections and this may be because we have little information about their habits and habitat preferences. Indeed, the (few) recorded collecting circumstances are quite different and include Malaise and intercept traps as well as bark fogging of logs and tree trunks, and collecting from or under logs. But almost all recorded localities seem to be located in rainforest, either subtropical rainforest or temperate and upland *Nothofagus* rainforest. Many localities are lowland and there is a pattern in *C. porphyriacus*, *C. carteri* and *C. sulcatulus* of living close to sea-level in the southern parts of their range, and living on plateaus in the northern parts in southern Queensland. It seems therefore, that the species of this genus mainly inhabit temperate rainforest, and that they probably live on or under the bark of trees and logs.

Based on the structure of the labrum and female gonocoxites, the genus *Coptoglossus* belongs to the lebiine subtribe Pericalina (= Catascopina, = Coptoderina, = Thyreopterina of different authors), but certainly not to the tribe Platynini as in Lorenz (1998, 2005) and, for example, in Wikispecies (2009). Within the subtribe Pericalina, in the structure of the labium, tarsal claws, female gonocoxites, and chaetotaxy of the terminal abdominal sternum,

*Coptoglossus* is quite similar to the Oriental genus *Peripristus* Chaudoir, 1869 which, however is apomorphic in several aspects of its external morphology. In view of a number of plesiomorphic character states, *Coptoglossus* indeed may represent one of the most basal genera of Pericalina. Hence the original description of two species as belonging to the platynine genus *Platynus* and the arrangement of the genus within Platynini is understandable, even when the genus originally was described as a lebiine belonging to the 'Thyreopterides' which in Chaudoir's (1869) sense was identical with what today is called Pericalina.

Unfortunately, the phylogenetic relations of the many genera of Pericalina are far from being settled, because the group is numerous in the tropical and subtropical regions of all continents, and usually work has been done only on the fauna of a single continent without any comparisons with the faunas of other regions.

Grouping of species within the genus is difficult, because the species are quite different in character states as well in external morphology and in the male and female genitalia. However, according to the shape of the squamosity on the male protarsus, *C. carteri* and *C. excisicollis* may be related, as they possess uniseriately squamose protarsi which seems to represent a synapomorphic character state, whereas the biseriately squamose male protarsus in *C. sulcatulus* and *C. porphyriacus* is plesiomorphic and hence is not suitable for any phylogenetic reasoning.

*Coptoglossus sulcatulus* and *C. carteri* possess a much smaller aedeagus than *C. porphyriacus* and *C. excisicollis*, so the distribution of this character state contradicts the above grouping. Within the genus, *C. sulcatulus* is peculiar by its small body size and the wide prothorax; *C. porphyriacus* by its violaceous colouration, the spoon-shaped apex of the aedeagus, and the sexual dimorphism in the size of the eyes; *C.*

*carteri* by the comparatively slender and low aedeagus; and *C. excisicollis* by the large body size, odd-shaped prothorax, and the slender and elongate female gonocoxite 2. As in many basal groups throughout the animal kingdom, in the genus *Coptoglossus* the morphological differences between species are considerable which probably reflects the rather high age of the genus, as compared with more modern genera within Pericalina.

The occurrence of a genus of Pericalina, basal in terms of its phylogenetic status, in the temperate south-east of Australia is important with respect to biogeographic questions, because the subtropical, but even more so the temperate rainforests of south-eastern Australia, are rather old environments which harbour a number of genera and species which also occupy a basal systematic position within their respective tribes. The genus *Coptoglossus* seems to be one of these old, indigenous inhabitants.

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